AMENDMENTS TO THE CLAIMS

This listing will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method for measuring a measurement object ~~having at least one reference structure for defining an object-fixed object coordinate system,~~ with the aid of a measuring system comprising at least one sensor system for recording a contour of the measurement object in a measurement coordinate system, the method comprising the following steps:

positioning the measurement object in a measurement position in the coverage range of the senor system, wherein the measuring object is substantially rotationally symmetrical with respect to a measurement object axis, the measurement object axis extending through a bore in a central hub of the measurement object;

establishing the position of the measurement object and determining an object coordinate system by means of the central hub of the measurement object which functions as a reference structure positioned at or near the measurement object axis;

linking the object coordinate system with the measurement coordinate system;

rotating the sensor system ~~about~~ around the measurement object for determining contour data of the measurement object; and

processing the contour data in an evaluation unit and compensating for an imprecise location of the measurement object in the measurement position by~~, whilst~~ taking account of the position of the object coordinate system ~~in an evaluation unit~~ in relation to the measurement coordinate system.

2. (Previously presented) The method according to claim 1, wherein during the measurement, the measurement object is so fixed by a centering device that accessibility to the reference structure is not impeded.

3. (Currently amended) The method according to claim 2, ~~wherein the measurement~~

~~object is fixed in the measurement position in such a way that the reference structure is accessible for establishing the measurement object position, the measurement object being rotation-like with respect to a measurement object axis, wherein the reference structure is positioned within the outer contour of the measurement object at or near the measurement object axis and a~~ wherein the centering device ~~for centering the measurement object~~ acts on the outer contour of the measurement object.

4. (Previously presented) The method according to claim 2, wherein a reference device for establishing the position of the object coordinate system scans the freely acessible reference structure.

5. (Previously presented) The method according to claim 4, wherein the reference device scans in noncontacting manner the freely accessible reference structure.

6. (Previously presented) The method according to claim 1, wherein a reference device performs a mechanical orientation of the measurement object by means of the reference system for establishing the position of the object coordiante system.

7. (Previously presented) The method according to claim 1, wherein a shape and/or position variation of at least one measurement object surface portion provided for engagement on an object surface, oriented orthogonally to a rotation axis of the sensor system and formed on the measurement object is determined by means of the sensor system and/or reference device.

8. (Previously presented) The method according to claim 1, wherein a marking is made on the measurement object defining a characterisitc measurement point by a marking device connected to the sensor system.

9. (Previously presented) The method according to claim 1, wherein the measurement object is conveyed linearly between an insertion opening and a discharge opening of the

measurement system.

10. (Previously presented) The method according to claim 1, wherein measurement data of the sensor system are linked with measurement data of the reference device for determining wall thicknesses.

11. (Previously presented) A device for measuring a measurement object having at least one reference structure for defining an object-fixed object coordinate system having a measuring system with at least one sensor system for recording a contour of the measurement object in a measurement coordinate system and a reference device for establishing the position of the object coordinate system with the aid of the reference structure, the sensor system being mounted in rotary manner relative to the measurement object in such a way that the sensor system is rotatable around the measurement object.

12. (Previously presented) The device according to claim 11, wherein there is a centering device for a positioning and/or fixing of the measurement object in the measurement position before and/or during measurement.

13. (Previously presented) The device according to claim 11, wherein the reference device is set up for a noncontacting reference structure scanning.

14. (Previously presented) The device according to claim 11, wherein the reference device is constructed for mechanically centering the measurement object with the aid of the reference structure.

15. (Previously presented) The device according to claim 11, wherein the sensor system and/or reference device is provided for determining the flatness and/or orientation of a measurement object surface portion provided on the measurement object, oriented substantially orthogonally to a rotation axis of the sensor system and constructed for engagement on an object

surface.

16. (Previously presented) The device according to claim 11, wherein a marking device for making a marking on the measurement object is provided on the sensor system and/or reference device.

17. (Previously presented) The device according to claim 11, wherein the reference device is arranged in rotary manner substantially coaxially to a rotation axis of the sensor system.

18. (Previously presented) The device according to claim 11, wherein integration takes place into a conveying device, particularly a linear conveying system.

19. (Previously presented) The device according to claim 11, wherein there are size determination means for a basic positioning of the sensor system and/or reference device.

20. (Previously presented) The method according to claim 6, wherein the reference structure is measured.

21. (Previously presented) The method according to claim 9, wherein the measurement object is conveyed perpendicular to the sensor system rotation axis.

22. (Previously presented) The method according to claim 1, wherein the sensor system is rotated about a rotation axis enclosed by a circumference of the measuring object.

23. (Previously presented) The method according to claim 1, wherein the measurement comprises a complete rotation of the sensor system about a rotation axis.

24. (Previously presented) The method according to claim 1, wherein the measuring object rests during the measurement.

25. (Previously presented) The method according to claim 1, wherein the measurement object is a vehicle wheel.

26. (Previously presented) The device according to claim 11, wherein the sensor system is rotatable about a rotation axis enclosed by a circumference of the measuring object.

27. (Previously presented) The device according to claim 11, wherein the measurement comprises a complete rotation of the sensor system about a rotation axis.

28. (Previously presented) The device according to claim 11, wherein the measuring object rests during the measurement.

29. (Previously presented) The device according to claim 11, wherein the measurement object is a vehicle wheel.